

# THE TIGER



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# THE TIGER

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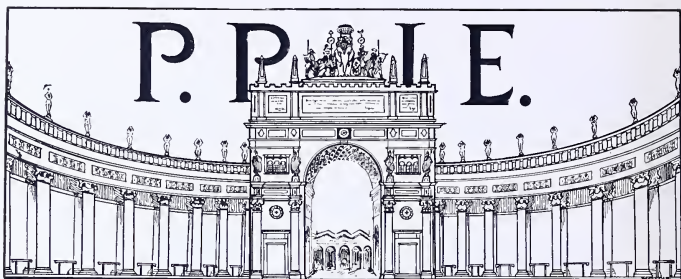
SAN FRANCISCO, CAL.



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TO MR. BRUNO HEYMAN, OUR DEAN, FRIEND  
AND ADVISOR, THIS VOLUME IS DEDI-  
CATED, WITH SINCERE APPRECIATION  
OF HIS DEEP CONCERN IN OUR STUDENT  
UNDERTAKINGS.



## A HISTORY OF THE PANAMA CANAL

Few of us realize that the idea of a trade route across the Isthmus of Panama dates back almost to the discovery of America by Columbus. The native Indians had told him of a "narrow place between the seas." In his later voyages he, as well as Balboa, searched for a southwest passage to the Orient for commercial purposes.

Toward the end of the sixteenth century Spain began extensive manufactures. An important outlet of trade was with New Spain, or Mexico, at the ports of Vera Cruz and Acapulco. At Acapulco a great Oriental trade had sprung up with the Philippines. This trade was carried on in the Manila galleons, a great fleet of ships, which made the trip yearly. Raw silks and other raw products were brought from China to the Philippines, and from thence to Acapulco. This was a voyage of immense hardship lasting about seven months.

At Acapulco there was a great fair upon the arrival of the galleons. The local merchants carried the goods overland to Panama, on mule back, and there they were shipped to Spain. This trade increased in importance with great rapidity. The necessity of a suitable means of transportation across Panama soon became evident. In 1534 Charles V of Spain ordered a survey of the lands for the purpose of building a canal. The report was unfavorable. This is the first formal step on record toward the construction of an isthmian canal. From then on, until Spain lost control of the isthmus in 1821, nothing was done, for the Spaniards having lost control of the seas were convinced that a canal would greatly menace this trade.

The first real boom for a canal came in 1850. In 1848 gold had been discovered in California, and a rush for the gold fields began. Quick means of transportation to California, which the overland routes or the long trip around the Horn did not furnish, became an absolute necessity. Steamship lines on the Atlantic to Panama, and on the Pacific from Panama to California sprang up at Panama. The Isthmus itself was crossed by means of stage-coach.

A railroad was started in 1849 at Panama by American capital. The gold rush gave an incentive for completing the work. After six years of overcoming difficulties, the road was completed, and on January 27, 1855, the first locomotive to cross the American continent from ocean to ocean went over the line. The services of this railroad are inestimable. Besides the important services the road rendered to commerce during the past fifty years, it opened the way over the isthmus, stimulated and strengthened the desire for a canal, and afforded many facilities for the latter's completion.

In 1850 the United States and Great Britain ratified a Clayton-Bulwer treaty. By it, a canal constructed by private capital and under the political control of the United States and Great Britain, was to be built. Nothing was done, however.

In 1880, De Lesseps, the successful builder of the Suez Canal, organized a company, backed by French capital, and the prospect of a canal soon became imminent. The next year the canal was started in earnest. Unfortunately graft and the careless squandering of money led the company to bankruptcy to the amount of \$250,000,000.

After the Spanish-American War our Oriental possessions made the canal an absolute necessity. Just as the Panama transit had been closely associated with the Philippines and Oriental trade in Spanish days, it now became of prime importance to the United States in protecting her Pacific possessions and commerce. The voyage of the Oregon around the Horn impressed the American people, as nothing else had done, of the importance of the canal from a naval point of view. The United States now wanted complete control of the canal. Negotiations for a new treaty with England were undertaken. An agreement was finally reached whereby the Hay-Pauncefote treaty placed the canal politically as well as commercially under the control of the United States.

In 1903 negotiations were opened with Columbia for the lease of a zone in Panama for the construction of a canal. The Columbian Senate rejected the offers. Exasperated, a revolution was fostered in Panama by the Washington officials. Panama was recognized as a free and independent republic by the United States. This act has been called a blot upon our national honor. If it can be so called, it was done for the benefit of mankind, for the benefit of trade, and not for purposes of subjugation or conquest. The claims of the French company, including the Panama Railroad, were bought over for \$40,000,000. Work was begun in 1904, but little was accomplished owing to the constant change of engineers. In 1907, with Colonel Goethals at the head of a staff of army engineers, work was begun in earnest.

A further history of the canal to date is quite unnecessary. We all know how it has been wonderfully engineered and managed; how the ravages of malaria and yellow fever have been done away with by covering the swamps with coal oil; and how the obstacles and difficulties at Culebra Cut, and elsewhere, have been overcome.

The world is now entering upon a new era of trade and prosperity. The result of the Panama Canal is inconceivable. The building of a United States coastwise shipping trade; the building of an extensive commerce between Europe and the Orient; the increase of our naval and military supremacy; the establishment of the United States upon a firm basis as a world power—all these things and many more are the direct result of the Panama Canal. Four hundred years ago that dream was impossible of realization. Today the realization of a dream centuries old marks the wonderful advance of mankind in the arts of science and engineering. And that same genius which accomplished the triumph of the ages is going to be commemorated and celebrated at the most wonderful, and at the most superb exposition of all times—the Panama-Pacific International Exposition.

ABEL SABALOT, '15.

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## THE HISTORY OF THE EXPOSITION

Four centuries ago Balboa crossed the Isthmus of Panama. Today the Panama-Pacific International Exposition is the celebration of the completion of the greatest engineering feat of the ages—the meeting of the Pacific and Atlantic Oceans—the Panama Canal. It is significant that this is the first exposition to celebrate a contemporaneous event.



The propriety of celebrating the completion of the canal by a great universal exposition was recognized a number of years ago. It was on January 12, 1904, that Mr. R. B. Hale, now Vice-President of the Exposition Company, wrote a letter to the Board of Directors of the Merchants' Association recommending the holding of an International Exposition in 1913, commemorating the discovery of the Pacific in 1513, and the completion of the canal.

On April 26, 1904, Mr. Hale addressed a meeting of the presidents of the industrial organizations, suggesting that these presidents be made into a Board of Governors for the Exposition.

Following this, Representative Kahn introduced a bill into Congress in behalf of San Francisco, but further action on the Exposition was delayed by the catastrophe of 1906. Few people then believed that within nine years a beautiful Exposition could rise out of the ashes of a destroyed city, but February 20, 1915, showed these doubtful ones what San Francisco could do.

On December 10, 1906, articles of incorporation of the Pacific Ocean Exposition were filed in the Recorder's office, with a capital of \$5,000,000. Little else was done until December 17, 1909, when a meeting in the Merchants Exchange Building voted unanimously in favor of San Francisco's holding an Exposition. About a week later a Ways and Means Committee of two hundred was created, with Mr. F. W. Dohrmann, Mr. Leon Sloss, and Mr. W. J. Dutton at the head. All this time other cities were competing for the honor of holding the greatest exposition the world has ever seen. It was finally brought to Congress to decide between San Francisco and New Orleans. Congress decided by a vote of 188 to 159 in favor of San Francisco. The completed Panama-Pacific International Exposition represents a national trust placed on San Francisco by Congress in 1910. However, it was not until March 22, 1910, that legal steps were taken to change the name from The Pacific Ocean Exposition Company to the Panama-Pacific International Exposition Company.

Then, on April 28, 1910, a mass meeting was held in the Merchants Exchange Building, which was addressed by Mr. C. C. Moore. The lists were opened and in the space of two hours \$4,089,000 was pledged. Before the lists were closed, \$7,500,000 had been subscribed. Then to raise \$10,000,000 more, the people of the State and of San Francisco amended their constitution and charter, thereby voting on the people of the State a tax of \$5,000,000, and a bond issue on San Francisco of \$5,000,000 more. The State Legislature then took a hand and authorized the counties of the State to levy a tax of six cents on every \$100 assessed value of the counties' displays. With the passing of this act the people of California pledged about \$20,000,000 to carry on the work of building the Exposition.

Work was really started on October 14, 1911, when President Taft, in the presence of a record-breaking crowd, officially started the building of the Panama-Pacific International Exposition by turning the first spadeful of earth.

Four months after the ground-breaking, February 2, 1912, President Taft invited the nations of the world to participate in the Exposition.

At this stage the necessity of a committee was recognized; so one was chosen in the following manner: A committee of three was elected by the people of San Francisco; this committee selected a committee of three hundred representing the citizens of the entire city. This representative committee then selected the Board of Directors, who, on April 4, 1911, elected their own officers.

The following are the officers of this board: Chas. C. Moore, Wm. H. Crocker, R. B. Hale, I. W. Hellman, Jr.; M. H. De Young, Leon Sloss, James Rolph, Jr.; Rudolph Taussig, A. W. Forster, J. W. Skiff, Captain A. Baker, H. D. Connick, Geo. Perry, Frank Burt, Joseph M. Cumming, F. S. Brittain, R. S. Durbee, and A. M. Mortenson.



A State Commission had also to be created to manage the fund of \$5,000,000, which had been raised according to the constitutional amendment. This commission consists of the following seven members: Governor H. W. Johnson, Matt I. Sullivan, Arthur Arlett, Chester Rowell, Marshal Stimson, F. J. O'Brien, and L. S. Robinson.

At this time another controversy sprang up, the discussion as to the site of the Exposition. There were three good localities to choose from—Ingleside, Golden Gate Park, and Harbor View. After much discussion, Harbor View was selected.

The first work on the site was the filling in of 150,000 cubic yards of earth, and the covering of the entire site with a layer of fertile soil, six inches deep, in which the numerous plants and shrubs could find roothold. This was finished by September, 1912. The first building to be erected was Machinery Hall. After the completion of the Palace of Machinery the other buildings sprang up like mushrooms after a season's first rain. Up to the opening day, February 20, 1915, forty-two foreign nations, and forty-nine states and territories had signified their intention of participating in the Exposition.

On the twentieth of February, nineteen hundred and fifteen, at precisely twelve o'clock noon, the Exposition was officially opened by the pressing of a gold telegraph key by President Wilson, in Washington, which sent the waves of ether scurrying across the continent to the apex of the Jewel City, there to be received and used to start the fountains playing, the machinery running, and the flags flying. President Wilson then telephoned the Exposition and conveyed his congratulations to the people of San Francisco through President Charles C. Moore. Thus, to celebrate the completion of the Panama Canal, was opened the Panama-Pacific International Exposition: an exposition of the world's progress set in a Jewel City—a city grown in the space of a few years from sand dunes and waste land to luxuriant beauty and fertile abundance.

O. P. JUNGBLUT, '15.

H. GREEN, '15.

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## THE ARCHITECTURE

In the Panama-Pacific International Exposition the architects, engineers, and sculptors have worked together in making a most wonderful representation of human achievements and education. They have embodied the acknowledged accomplishments of the ancients in a wonderful modern display which commemorates the opening of the Panama Canal and the West.

The following styles of architecture have been used: French Renaissance, Greek, Roman, Italian, Gothic, Italian Renaissance, and Spanish Renaissance. There is no one style used more than any other but there are several points in common to each of the buildings of the central group. These are the large domes in the center of each of the buildings and the smaller ones on most of the corners. The small domes differ slightly according to the court or avenue on which they face. Some are surrounded by four smaller domes, while others are surrounded by four irregular pyramids. There are arcades in each court.

Contrary to the usual method, the architects have not designed the whole buildings. Engineers have designed the construction, while the architects have applied their knowledge to the outer walls and courts. They have used a material in this work which, unlike "staff," contains color in it. It is a mixture something like concrete made of cement and sand, colored to imitate travertine, a stone found on the banks of the Tiber near Rome.

By means of a system of courts and avenues the architects have been able to make the best of their abilities, and at the same time the traffic problem has been solved. There are five courts in all. They are the Courts of Universe, Abundance, Four Seasons, Flowers, and Palms. These courts are the outside walls of eight of the exhibit palaces of the main group.

The Court of Universe, the largest and central court, is an imitation of the entrance to St. Peter's in Rome. It is formed by the Agriculture, Transportation, Manufactures, and Liberal Arts Palaces, and is designed in a combination of Roman and Greek styles. It is surrounded by a double row of Corinthian columns, which make it look larger and greater. The court is approached on the east and west by the Arch of the Rising Sun and the Arch of the Setting Sun, and by Venetian entrances extending into the Courts of Abundance and Four Seasons. These two huge arches are often spoken of because they represent the meeting of the east and west, that which the Panama Canal has made possible. The Venetian entrances are similar to each other, having one noticeable effect: their walls are decorated by various styles of columns reminiscent of the pillars of temples widely used in Burmah. This court was designed by McKim, Meade, and White of New York, and covers ten acres.



*Organ Tower and Fountain in Court of Abundance*

The Court of Abundance, to the east of the Court of the Universe, was, when the plans were originally drawn up, to be the most expensive and elaborate court of the Exposition. But, when the actual construction work was commenced, it was cut down somewhat, thus eliminating the wonderful staircase. However, Louis C. Mulgardt of San Francisco has successfully made a wonderful piece of art of it. So great and fine are its many wonderful decorations it is sometimes described as frozen music. The style of architecture used is of the Oriental Spanish Moorish type. The court is surrounded by an arcade of groined arches which are distinctive to it. On the north end is a square tower, in which is a Gothic arch. In this arch are several figures of statuary, representing the different stages of civilization. This court is formed by the Palaces of Varied Industries, Mines and Metallurgy, Transportation, and Manufactures.

The Court of Four Seasons is Roman style, being a copy of the Hadrian Villa, an ancient historical Roman village. It was designed by Henry Bacon of New York and is decorated with Ionic columns. It may be noticed that, besides the regular Ionic decorations at the top of these columns, there are also ears of corn. This decoration brings out the meaning of this court in a novel way as do the niches in each corner, which contain statuary symbolizing the seasons. The court leads through a smaller court to the Esplanade on the north and through a half-domed arch to the Court of Palms on the south. The court

is formed by the façades of the Agriculture, Food Products, Education and Social Economy, and Liberal Arts buildings.

The Court of Palms, south of the Court of Four Seasons, and the Court of Flowers, south of the Court of Abundance, are of the same size and general design. They were both designed by George Kelham, Chief of Architecture at the Fair. The Court of Flowers differs from its mate in the style of columns. The first has Ionic columns, while the other is decorated by Corinthian columns. Also the Court of Palms has not the open balcony that is featured in the Court of Flowers. There are two Italian Towers at the entrance to each court. These towers, however, are slightly different, the ones in the Court of Flowers being a little taller and having a different arrangement of the columns on their tops. The style on a whole for these two courts is Italian Renaissance.

Outside of the courts the architecture of the central group merely harmonizes with the style of the building nearest. Along the Esplanade is the Spanish Renaissance style. On the south side, facing the Avenue of Palms, the portals are of Spanish Renaissance style and the walls are reflective of the California Mission style. On the east, facing the Machinery Hall, the architecture turns to the Italian Renaissance, suggested by gateways of Italian walled cities. On the west side, in accordance with the style of the Fine Arts Palace, the style is old Roman, featuring several half-domes. One of these domes is known as the Dome of Philosophy.



*The Colonnade surrounding the Palace of Fine Arts.  
Food Products Palace in the background*

The Tower of Jewels, the main tower of the Exposition, is a steel structure standing 433 feet high on a base of one acre. It is a blending of several different styles of architecture, with no one style predominating. It is ochre-colored, and set with 100,000 cut glass jewels which sparkle in the sunlight and glitter in the rays of projectors at night. It is, like the Eiffel Tower in Paris and the Howard Tower at Buffalo, a main attraction in the architectural scheme. Its great height breaks the monotony of the many large buildings and stands as a center of the architectural scheme. It was designed by Carrere and Hastings of New York.

Machinery Hall, the largest building in the fair, in fact the largest wooden building of the world, is modeled after the Baths of Rome. The designers, Ward and Blohme, are local men and have used the Italian Renaissance with modern expression. The decorations are all symbols of strength and progress in machinery. The doorways are decorated by huge Corinthian columns.

Festival Hall, by Robert Farquah of Los Angeles, on the east side of the Scott Street entrance, is French in style. It was copied from the Beaux Arts Theater, Paris, having one large dome and many small domes and minarets. It harmonizes with the Palace of Horticulture directly opposite.

The Palace of Horticulture consists of a huge dome and an annex. The dome is one of the largest in the world, being 185 feet high. It was inspired by the Mosque of Ahmed I of Constantinople, and is mainly of Byzantine style. The decorations are French Renaissance, and the fruits and flowers represent the abundance of California products. The building was designed by Bakewell and Brown of San Francisco, but the decorations were done by Boutier and John Bateman of New York.

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The Palace of Fine Arts is of old Roman architecture with Graeco-Roman columns. It is a steel frame fireproof building and is in the form of a half circle. The outside is surrounded by an exquisite colonnade which reflects into the lagoon in front of the building. In the center of the palace is a large dome. Steps lead from the colonnade to the lagoon through shrubbery. The architecture tends to make the place look quiet and restful. It is the work of B. R. Maybeck of Berkeley.

The architecture of the State and Foreign buildings varies according to the community represented. California has the Mission style, while Oregon is entirely rustic. Many of the state buildings of the eastern states are replicas of some



*Looking west on the Avenue of Palms, showing entrance to Palace of Varied Industries, the Italian Towers and Tower of Jewels*

great building in the state. The same is noticeable in the foreign buildings, where the architecture varies from the Oriental Chinese village to the stately columned building of Canada.

Although there are many styles of architecture in the Fair, each kind harmonizes with the others, and there is not a thing crudely done from the Tower of Jewels to the candy booths, which vary in architecture according to where they are situated. The very details of everything are worked out to perfection. Even the entrances show individuality, each one differing from the others in some one point, as a bell or other thing of like importance. Also on the Esplanade the details are not forgotten; so the yacht harbor with its battery of scintillators was made a reproduction of Morro Castle. One a whole the architecture of this wonderful Exposition is like a huge machine, each of the various styles being a part of the machine, which fits in exactly where it belongs.

H. W. WICKSTROM, '16.

## THE SCULPTURE

Never before in the history of expositions have the sculptors and architects worked hand in hand, as they have for the Panama-Pacific International Exposition. As a result the buildings and courts blend together not only in theme, but also in color. More than a score of world-famous sculptors have exhausted their skill in producing for us some of the most famous pieces of exposition sculpture. The general method of all these men was to make small models in their studios and then have them enlarged on the grounds by means of the pentagraph. Unity of theme and design was helped by the fact that all the work was done at a studio on the grounds, under the supervision of one man, Mr. Sterling A. Calder. The general idea running through all of the Exposition sculpture is that of the prog-



*The Fountain of Energy, facing Scott Street Entrance*

ress and the civilization of man, which has culminated in his triumph over nature in bringing the waters of the Atlantic and the Pacific together. Hence the artists have moulded figures symbolical of Victory, Abundance, Youth, and Evolution, and also of historical themes such as the bringing together of the nations, and the discovery of the Pacific.

Since the total number of figures including the repeated ones reaches nearly five hundred in number, we shall mention only the more important ones, of which the Fountain of Energy, the Column of Progress, and the Nations of the East and West, are perhaps the greatest.

The Fountain of Energy, designed by Sterling A. Calder, the Exposition's chief sculptor, stands directly facing the Scott Street entrance, in the South Gardens. Calder describes it as a joyous, aquatic triumph, celebrating the completion of the Panama Canal. The fountain itself is in the form of a lofty pedestal, from the top of which water is continually spouting in many silvery streams. At the base of this spherical shaped pedestal, which represents the world, is a row of Tritons, portraying the oceans of both hemispheres. Upon their shoulders rests the world, crowned by a wreath of imaginative figures and aquatic designs. Surmounting the pedestal, above the waters, is the Lord of the Isthmian Way, astride a sturdy steed, with his massive yet graceful body standing erect. Upon his outstretched arms, which are forcing back the waters, are poised two



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light flying figures, Labor and Fame, heralding far and wide the victory of man over nature.

Just behind this fountain stands the famous Tower of Jewels, probably the masterpiece of the Exposition. On each side of its entrance are the equestrian statues of Rumsey's Pizzaro, and Niehaus' Cortez. They represent the fearless old Spanish adventurer. The upper corridor of the tower is ornamented in a very original and skillful way, with Flanagan's figures of the Priest, the Soldier, the Philosopher, and the Adventurer. At either end of the tower, in secluded nooks, play two fountains. One is Mrs. Harry Payne Whitney's *El Dorado*, representing the struggle of mankind to reach Youth, who is hidden behind two barred doors. Before the doors, at the feet of a man and woman, who are evidently guarding them, kneel two weeping unsuccessful searchers of Youth. The other fountain, Mrs. Edith Woodman's *Youth*, is merely the figure of a girl standing amid a bed of flowers.

And now one enters the Court of the Universe, which is of any one place the best to obtain a general idea of the scope of Exposition sculpturing. Around all sides of this court are colonnades, the one hundred and twenty-eight columns of which bear a statuette of a young girl crowned by a jewelled star. At the east and west ends of the court are the triumphal arches of the Rising and Setting Sun, or the Orient and the Occident, surmounted by two massive groups, facing each other, symbolical of the Nations of the East and West. These are probably the largest groups of the kind ever made, and were modeled by Calder, Roth, and Lentelli. They are so skillfully composed that their silhouettes against the blue sky are very similar, and yet when considered individually there is a vast difference between the groups. One is rich in decorative effect, and graceful in outline, while the other is extremely simple. The central figure of the Nations of the East, some forty-two feet high, is that of an elephant, richly colored and gorgeously robed, bearing an Indian Prince. On each side of the Indian is a dromedary carrying upon its humped back a Mohammedan. On one end of the group is the stupendous model of the Mongolian Horseman astride his fiery charger. At the other extreme is an Arab Sheik. Beside the huge elephant stand an Arab Falconer and a Tibetan Lama. The other two figures are Negro Servitors. Directly opposite stand the Nations of the West on the arch of the Occident. They are symbolical of the advance of civilization across the continent. Balancing the elephant of the East is the huge *Prairie Schooner* of the American desert, drawn by two oxen. Resting on top of the schooner is the *Genius of Enterprise*, balancing the howdan of the elephant, and at her feet on either side is a figure of *Mercury*. Standing on the crossbar behind the oxen is the *Mother of Tomorrow*. At one extreme of the group is the equestrian statue of the pioneer *Trapper and Hunter*, followed by the toiling figure of a pioneer woman, and at the other is an Indian in his war trappings, and following him is his heavily burdened squaw. Walking alongside of the oxen are the *Prospector* and the *Agri-culturist*, while back of them may be seen on the left a gay cavalier with his flying banner and on the right a stern Puritan Pilgrim holding aloft his eagle of Liberty.

Below these two groups, at the north and south entrance to the sunken gardens, are the four single figures of Water, Fire, Air, and Earth, designed by Robert I. Aitken. Water is pictured by the figure of Neptune holding a large fish. Fire is the statue of a man, under whom the fire-dragon crawls. In his left hand he holds a flame which shoots forth from the dragon's mouth, and under his right arm is a bolt of lightning. Air, the third great element, is represented by the form of a man upon whose body a few birds rest, and about whom other winged creatures of the air are flying. Mother Earth, the last and greatest of the elements, is pictured by the figure of a graceful woman in a reclining position. At the east and west entrances to the gardens are Festivity,

Music, and Art, designed by Paul Manship. At either end of the sunken gardens are the fountains of the Rising and Setting Sun, by Weinman. Both are of the same design, except for the figure on top. Around the base of the pedestal, which is architectonic in style, are a number of clearly designed Tritons. The fountain of the Rising Sun is surmounted by a graceful youth. Contrasting with this is the sleeping girl of the Setting Sun.

In the Court of Abundance, which is to the east of the Court of the Universe, is the Fountain of Life. It was modeled by the skillful hand of Robert I. Aitken. There are six groups in all, four of them, Love, Hatred, Beauty, and Labor, hold up a large sphere representing the world. In front of these groups are figures representing the Giving and Taking of Life. At the northern end of the court, the Evolution of Man is sculptured. Beginning with the lower animals, such as the lobster, the crab, etc., the entire rise of civilization is portrayed. This is achieved by making three distinct divisions. First comes the Stone Age, then the Iron Age, and lastly our age of Christianity and modern civilization. Each is represented by a group of allegorical figures of the inhabitants of each age. Chester Beach is the sculptor.

On the broad esplanade of the Marina, directly north of the Court of the Universe, stands the Column of Progress, the first great column in the world whose design was inspired by a purely imaginative motif, and the first sculptured column at an exposition. The column is a representation of the power, the will, and the impulse that forever drive man to strive onward, breaking down all barriers in an effort to reach the highest point in knowledge and fame. In a word, it symbolizes the progressiveness of human effort. The column itself and the pedestal were designed by McKim, Mead, and White of New York, and the figures by Herman A. McNeil. The general idea, however, was Calder's. This giant sentinel is one hundred and sixty feet high. About its square base are a number of figures in frieze work, representing the great divisions of mankind. Advancing upwards about the pedestal the rise of man is shown, gradually rising upward, and spiraling around the column; at last he emerges at the top, as if today were the extreme height of civilization. Surmounting this lofty pedestal is the group and figure of the Adventurous Bowman. The Bowman, in an erect position with every nerve strained to the utmost with excitement, is just about to launch his dart into the West, the direction in which civilization is tending.

In the North Garden, between the Court of Four Seasons, which is west of the Court of the Universe and the broad Marina, stands the classic Fountain of Ceres, modeled by Miss Evelyn Longman. The figure of the Greek Goddess Ceres stands lightly poised upon the world, which tops a simple pedestal. Around the base of this is a friezework of graceful dancing girls, holding in their hands the products of the soil in offering to their goddess.

Upon entering the Court of Four Seasons, one hears the murmur of running waters coming from all sides, and upon investigation he soon finds out that in each of the four corners of the court there is an aesthetic fountain and cluster of noble figures representing the four seasons, Spring, Summer, Autumn and Winter, by Piccirilli. Just in front of the half-dome, on two tall columns, are Jaeger's Rain and Sunshine. Rain is the figure of a woman shielding herself from the rain, and Sunshine is the statue of a woman shading her eyes from the sun with a palm branch. It has been suggested by many that the Court of Two Seasons, named after these two statues, would be more suitable to the court than the name Four Seasons, since we in California know but two seasons. Above the half-dome is The Harvest, by the same sculptor. The Goddess of Agriculture, surrounded by sheaves of wheat and other agricultural products gathered during the harvest of the year, is the theme of this figure. Surmounting the pylons at the north entrance to this court are the two bull groups, Jaeger's work, representing the power of man over beast.



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In the Court of Palms, really the South Garden of the Court of Four Seasons, is the End of the Trail, by James Fraser. It is one of the most unique statues of the Exposition. The sculptured sadness and fatigue, and the forlorn hopelessness of the Indian and his horse are marvelous. It has been interpreted by many as being the passing of the Indian race. Balancing this is the Pioneer at the entrance to the Court of Flowers, portraying an old, bare-headed, grey-bearded pioneer, with his axe and flintlock in hand, on the lookout for hostile Indians. This was designed by Borglum.

Around the top of the main exhibit palaces are statues suitable for the exhibits within, or carrying out the general scheme of the architecture. Figures of the Pirate and the Captain, by Allen Newman, stand in the niches and entrances on the north wall of these buildings. Haig Patigian designed the figures around the Machinery Hall, such as Electric Power, Invention and Steam Power. Around the Varied Industries Building is a row of California bears. Robert Stackpole and Weinert are responsible for the figures in the niches and doorways of this building. In the rotunda of the Fine Arts Building is found the Priestess of Culture, by Adams.

Quite in contrast to the sculptured work done especially for the Fair, which is moulded in Roman travertine, is the famous statue cast in bronze, of our martyred hero, Abraham Lincoln, before the Fine Arts Building, by Saint Gaudens. We hope that in the future some of the best of our Exposition sculpture will be cast in bronze, so that they can be preserved.

As a whole, the sculpture of our Exposition has never been surpassed, nor even equalled by that of any other exposition. "On arches and columns, in niches, fountains, free and standing groups, it sings of many themes, yet always in harmony."

S. A. KLINGER, '16.



*Entrance to the Court of Four Seasons, showing the Statue of Ceres in the Foreground*

## THE EXPOSITION COLORING AND MURAL PAINTINGS

One man, Jules Guerin, is responsible for the beautiful "City of Pastels." To him belongs the honor of creating the first exposition of color. Taking the exposition site, from one end to the other, he has planned and executed a masterpiece in color, taking into consideration the smallest detail from every angle and viewpoint. The statuary, the buildings, the arches, the flowers, and even the sand on the paths conform to his chromatic series.

The warm buff tint of travertine is the basic color, and an imitation of that porous marble is used throughout the exposition. Guerin has cleverly laid his series of soft oriental colors on this old ivory background of travertine, in such a manner that the blue of the sky, the purple of the distant hills, and the deep blue-green of the bay, all blend with man's creation into a picture to be seen—not described. Along with the basic buff of travertine, the other colors are: French green, used on the lattices and flower tubs; oxidized copper green, used on most of the palace domes; blue green, on the bases of the many flagpoles; pinkish-red-orange, used only on the flagpoles, which are always topped with gold; wall red in three tones, found on the backgrounds of the colonnades, courts, niches, and tiled roofs; yellow golden-orange, used in enriching the travertine and in enhancing the shadow effects; deep cerulean blue, an oriental blue, used on the ceilings, vaulted recesses, in deep shadows and on panels; gray; marble tint, a transparent glaze spread over the travertine in places, and verde antique, a soft green, like that of corroded copper.

These pigments, applied with wonderful skill and harmony, combined with delicacy of design and tracery, have created this fairyland of color.

The climatic conditions of San Francisco are such that it is possible to have as a form of outdoor decoration, mural paintings. These paintings are the workings of masters, on canvas, placed in such a manner that when the exposition is over, they can be removed from their present locations and preserved in the art salons of the country.

The mural artists were also restricted by Jules Guerin. They were to use a palette containing the colors: yellow ochre, burnt orange, light vermilion, cerulean blue, and white.

When entering the grounds through the main entrance, the first set of murals is seen in the archway of the Tower of Jewels. Here, on either side toward the top of the arch, Wm. De L. Dodge has two panels and each one has three divisions. The event upon which the exposition was founded is portrayed in these two paintings. The first symbolizes the history of the canal and the three divisions are: "Discovery of the Atlantic and the Pacific," "The Purchase," and "The Meeting of the Waters." The other panel represents the reward for the successful completion of the great undertaking, the three divisions being: "Labor Crowned," "Gateway of All Nations," and "Achievement."

Passing on to the Court of the Universe two more sets of murals are found, one in the Arch of the Rising Sun and one in the Arch of the Setting Sun. The panels in the eastern arch are the work of E. Simmons and named "The Atlantic." On one side of the arch Simmons develops the race, starting on the right of the panel with the savage, from the traditional lost isle of Atlantis, through the Graeco-Roman period, and on to the Spanish and English explorers, followed by the Jesuit missionaries, the Arts to the Modern Immigrant, finishing on the left with a figure of the Future listening to the Past. The painting on the opposite

side of the arch develops the idea further by portraying the thoughts and symbolizing the aspirations of the men in the first panel. The figures in this mural, beginning with the right, represent Hope and False Hope (the latter casting soap bubbles), Adventure, Commerce, Immigration, the Five Arts, Religion, with the theme brought to a conclusion by the two figures on the left of the canvas, representing Wealth and Family.

In the western arch the panels are by Frank Dumond and are called "Civilization From Atlantic to Pacific." This mural, as the name indicates, portrays the gradual movement of the Frontiersmen across the continent, starting from the quaint homesteads of New England, to the land of "sunshine, fruit and flowers"—California.

In the Court of Abundance, joined to the Court of the Universe by the Arch of the East, are the noteworthy panels by Frank Brangwyn, the well known London artist. These murals, representing the four elements, are located in the four corners of the Court. Each of the four elements is represented by two panels. The first, representing air, is titled "The Hunters." The idea is man in his primitive stage, pursuing game with primitive weapons—bow and arrows. The scene is on the edge of a thick wood, with the soft golden beams of the western sun filtering through the leaves and branches of the trees.

The other painting representing air is "The Windmill." The windmill rises from the aged wood, to the cobalt sky, where the gray clouds of the gathering storm, bound by a rainbow, are hovering over a harmonious array of blending color.

"Pressing the Grapes" and "The Fruit Pickers" are the two paintings depicting earth. The former is a representation of what one might call a primitive wine press. The picture is one of action, with the workers crushing the juices from the wine grapes, which are in a large stone trough, shaded by an arbor of vines bearing large clusters of richly colored grapes, which give a decided cooling effect to the picture.

The predominating feature of "The Fruit Pickers" is the composition and grouping of the figures. The workers are seen gracefully gathering the crop of luscious fruit from the heavily laden trees.

The panels representing the third element—Fire—are plainly comparison pictures, showing "Primitive Fire" and its devastating effect in contrast with "Industrial Fire" as one of the greatest aids to man. The latter is a group of industrial workers forging the iron, which has been brought to the proper heat by the restrained application of fire.

The fourth and last element—Water—is pictured by the two panels, "The Net" and "The Fountain." The first is a group of fishermen laboriously dragging in the day's last net of fish. The second is a group of figures at the fountain, who have come with their brilliant colored pots for water, one of the greatest essentials to life.

The predominating features of Brangwyn's works are his high ideals of humanity's application of Nature's resources; the harmonious use of intense blue, yellow, and scarlet, which are the most prominent colors of his canvases, and his handling.

To the west of the Court of the Universe, in the Court of Four Seasons, are ten panels, by Milton Bancroft. The first two are located in the arch leading from the court to Administration Avenue. These canvasses represent "Art Crowned by Time," and "Man Receiving Instructions in Nature's Laws." The remaining eight are divided into four groups, two paintings to a group, representing the Four Seasons. The first mural of the group represents the season,

and the second, the seasonal synonym. They are: "Spring," "Seed Time;" "Summer," "Festivity;" "Autumn," "Harvest;" "Winter," "Fruition."

There is a very marked contrast between the work of Brangwyn and Bancroft. Brangwyn's work spells strength and power in every stroke and varying tone; while the work of Bancroft is gentle, plain, depending for its beauty upon the delicate application of color and the graceful execution.

In the Court of Palms, which lies south of the Court of Four Seasons, are two semi-circular lunettes. One is the work of Hassam, "Fruits and Flowers," and the other is by Halloway, "The Pursuit of Pleasure." These paintings, while well executed and beautiful in thought, are purely of a fantastical nature, and are characteristic of the poet-artist.

Eighty feet from the ground, and set in the Fine Arts rotunda, are eight striking murals by Robert Reid. These are in two sets, one representing the four golden resources of California, and the other the four Arts of the World. The goods represented are: "Wheat," "Poppies," "Oranges," and "Gold." Two of these, "Wheat" and "Oranges," are the cultivated products, while "Poppies" and "Gold" are the natural products. The four arts represented are: "Religious Art," "European Art," "Oriental Art," and "Modern Art."

In the mural paintings the theme of the Exposition is beautifully and artistically carried out. Each canvas has both an obvious and hidden meaning. Each canvas expresses the high ideals of the artist. Upon careful study and analysis of a panel one can read into the very mind and soul of the artist, who has expressed his idea of Life and Nature so nobly. Without a doubt the mural paintings form one of the greatest educational opportunities of the Exposition. To closely study and endeavor to interpret the meaning, is to cultivate the mind along the line of analyzing nature and mankind.

Yet, while the expression of ideas is perhaps the chief feature of the murals, the color foundation has not been neglected, and consequently the mural paintings form a most important and delightful adjunct to the main color scheme.



## THE TIGER

### THE ILLUMINATION

The illumination of the Panama-Pacific International Exposition marks an epoch in the science of lighting, which surpasses anything in the way of illumination that man has ever witnessed. A system known as "flood lighting" has been adopted throughout, and the effects produced by this system of indirect lighting are beautiful beyond conception.

The source of this wonderful illumination may be divided into three great units: the concealed incandescent lights, which illuminate the cloistered depths of the myriad arches and colonnades; the diffused arc lights, which lend the brilliance of daylight to the wide avenues, and send an eerie opalescence through the tinkling waters of the beautiful fountains, and the gigantic projectors, which play hither and yon upon the slender towers, the fleecy clouds, and the rippling waters of the bay, transferring to them the glory and splendor of every color of the rainbow. Each unit plays an important part in the general scheme of illumination, and all are welded together into an incomparable symphony of light and color.

The softest and perhaps most pleasing feature of this system is the subdued radiance of the numberless tungsten lamps, which consume but one and one-half watts per candlepower. These illuminate the inner surfaces of the arches and courts.



*Looking north from the Court of Four Seasons, showing the three forms of Illumination*

There is no outlining of the buildings with lights, accompanied by the inevitable garish contrast of glare and darkness. On the contrary, all the lights are concealed behind pillars, friezes, and cornices, from where they spread an infinitely warm and artistic illumination over the beautiful mural paintings and Moorish ornamentations.

Next to the incandescent lights in beautiful effect, and by all means first in utility, come the diffused arc lights, which line the broad avenues, pervading them with an even, subdued luminosity. These arcs are concealed in the shafts of the two luminous fountains in the Court of the Universe, producing a weird iridescence in the falling waters.

Along the avenues the arc lamps are mounted on poles at frequent intervals and are surrounded by globes of opal glass, which cause them to give forth a diffused, shadowless light, not unlike that of the midday sun, save that it is softer and, if possible, has a more beautiful effect. To further add to the beauty of the avenues, these lights are surrounded on three sides by emblematic banners.

which add greatly to the color effect and serve to refract the light onto the delicately colored façades of the buildings.

Greater than either the incandescent or arc lights, from a point of view of spectacular and majestic beauty, are the huge batteries of projectors, which number over nine hundred and fifty and range in size from eighteen inches to four feet in diameter. The majority of these lights are mounted on the roofs of the palaces, where they are concealed from view and from where they play an endless melody of colored light upon the more striking features of the Exposition, upon the lofty towers, great columns, sculptured arches, and symbolic statues.

Chief among the many beauties of the Fair which are so greatly enhanced by these batteries of searchlights is the Tower of Jewels, uplifting almost a half a thousand feet, with its jade upper pillars, colossal arch, rich sculptures, and imposing statuary, all studded with gems. Under the influence of the millions of candle-power projected upon it, this tower, with its 125,000 iridescent scintillating jewels, takes on all the colors of the prism, harmoniously blended into a shimmering kaleidoscope of color, color that dances and sings.

Centered on the two dominating sculptured groups, the Nations of the East and the Nations of the West, are great projectors, which lift these Homeric masses apart from their architectural environment and produce a complete illusion of the theme on which the Exposition is founded—the meeting of the nations of the east and west.

Elsewhere, spraying and playing fountains are centered in radiance; individual bits of sculpture are picked out by a vagrant beam in the foliage, and fluttering standards and gonfalons, in the colors of red, orange, and blue, are brought into relief by these powerful lights.

However, the gigantic scale of the lighting system of the Exposition is most vividly brought out by the great battery of projectors composing the scintillator which is situated at the entrance to the yacht harbor. This group consists of forty-eight projectors, one for each state in the union. Each of these lights is thirty-six inches in diameter. These projectors produce 55,000,000 candlepower apiece or an aggregate of over 2,600,000,000 projected candlepower.



*The Effect of Flood Lighting on the Tower of Jewels*



## THE TIGER

To most of us 2,600,000,000 candlepower is an inconceivable quantity; but let it be said that a single one of these forty-eight projectors, when swept over the miles of intervening water to the Berkeley or Marin hills, reveals everything that falls in its path with a brightness equal to that of daylight, and that when the entire forty-eight are in operation their brilliant effect is plainly visible at a distance of fifty or sixty miles.

These projectors are fitted with color screens of all conceivable colors and are mounted in such a manner that they may be swung in any direction. When they are in operation, with their gigantic fingers of color darting through the sky, they produce effects rivaling the Aurora Borealis, effects beyond the description or even the most fanciful dreams of man. When they are playing on bursting smoke bombs, they produce many varied effects known as "Flags of All Nations," "Showers of Oranges," and "Celestial Mines." When penetrating great clouds of steam, they produce "Fireless Fireworks" and "Steam Serpents." Aside from the few features mentioned here the great "Scintillators" form many weird spectacles too numerous to describe or even to mention.

The vastness and grandeur of the beauty of this wonderful lighting system is not to be realized in a single night, or in a single week, or from any one viewpoint. Each court and tower has its individual beauty. Each court and tower expresses its individual theme.

A. MAINS, '16,

H. WICKERSHAM, '15.





## THE EXHIBIT PALACES

Under the turquoise California sky, drenched with sunshine and color, bordering the sparkling waters of San Francisco Bay, and rimmed by mountains, the haughty and majestic Tamalpais towering over all, lie the exhibit palaces of the Panama-Pacific International Exposition. Flanked on the east by the "Zone" and on the west by the State Buildings and Foreign Pavilions, these palaces form a nucleus for the wonderful display. Eight of these enormous structures comprise the center unit of "Jewel City." These are, from east to west, the Palaces of Varied Industries, Manufactures, Liberal Arts, and Education; facing south across the South Gardens, and facing the North, overlooking San Francisco Bay, are the Palaces of Mines and Metallurgy, Transportation, Agriculture, and Food Products. East of this group is the Palace of Machinery, and to the west, overlooking a beautiful lagoon, lies the Palace of Fine Arts. To the east of the South Gardens lies Festival Hall, and to the west of the gardens the Palace of Horticulture.

Sixty thousand exhibitors, representing forty-one nations, have arranged displays in these majestic palaces, which house the most wonderful collection of exhibits ever assembled in the history of the world. Within the palaces are shown the world's progress and knowledge in the applied sciences, and for that reason no exhibit will be considered for award which does not represent an advance in the particular field it covers since the St. Louis Exposition of 1904.

## VARIED INDUSTRIES

This palace, at the southeast corner of the main group, faces the Avenue of Progress on the east and the Avenue of Palms on the south. It is almost identical with the other palaces of the main group in construction, covering an area of 415 by 541 feet, being 70 feet in height to the cornices, 113 feet to the gables, and 160 feet to the top of the central domes.

The wonderful skill attained by the workers of the world is seen by the exhibits in this palace. The finer products of the manufacturing arts are found here, although many articles of staple use are in evidence. Eight foreign nations have representations in this palace. Argentine will exhibit its great leather workings, Switzerland, a chalet, where will be shown the finest products of the Swiss watchmakers. Rare tapestries from Turkey, costly rugs from Persia, royal porcelains from Denmark, Bohemian ware from Austria, silks from China, embroideries from Germany, are a few of the many fine articles that are displayed. Not only will the finished products be shown, but the processes used in the manufacture. Visitors can view how the diamond cutters of Holland get their prized effects, how cameos are engraved, how original designs for settings are created, and experts will be seen working antique lace patterns, while other patterns will be made by machinery.

## MANUFACTURES

This palace is located west of Varied Industries, and is separated from it on the southern side by the Court of Flowers, and measures 475 by 552 feet in floor space. This entire surface has been allotted to over 4,000 different exhibitors. The exhibits are closely related to those of Varied Industries, the general distinction being that the latter palace has for its chief display the finer products of the manufacturing arts, while in the Palace of Manufactures will be found the things that go into the home and on the person.

## THE TIGER

The art industries of the world are brilliantly displayed here, and in this palace is located the combined interest of all nations in the exhibition of the finished products of manufacture and skill in which each country excels. The entire process of the manufacture of silk is carried out, from the silk worm spinning the cocoon, to the finished gowns of silk worn by the most beautiful models that can be obtained. The manufacture of boots and shoes is carried on in full view of the public, from the treatment of the raw hides to the turning out of the finished product. The glove-making industry is demonstrated in like manner, and in general, all branches of the manufacturing art will be displayed with the same completeness, the three mentioned being selected merely as illustrative.

### LIBERAL ARTS

Directly west of the Palace of Manufactures, and separated from it by the dazzling Tower of Jewels, lies the Palace of Liberal Arts. The building measures 585 feet in length by 470 feet in width, and covers an area of approximately six acres. Upon entering the grounds from Scott Street, this palace, together with the Palace of Manufactures, greets one's eyes, and upon entrance one finds countless displays which will remind one that civilization's progress has depended on man's inventive genius. Liberal arts rank high in the Exposition's classification of exhibits because they embrace the applied sciences which indicate the result of man's education and culture, illustrate his tastes, demonstrate his inventive genius and scientific attainments and express his artistic nature.

Of the American group of exhibits, probably the most important is the



*The Palace of Horticulture*

one pertaining to the electrical methods of communication. Since the St. Louis Exposition, deep-sea traffic has been revolutionized by wireless telegraphy, while the wireless telephone bids fair to soon become just as important a factor in human safety and advancement. Both these great inventions are exhaustively demonstrated in this palace. The first instrument, through which Prof. A. Graham Bell transmitted speech,

is on exhibition, as well as Thomas Edison's latest invention, the telescribe, a combination of the telephone and the dictagraph, by which record is kept of telephone communications.

### EDUCATION

Bordering the Avenue of Administration on the west, separated from Liberal Arts by the Court of Palms, and forming the southwest unit of the main group of palaces, lies the Palace of Education and Social Economy. Its main entrance is from the west, through the great half dome of Philosophy, which is 113 feet in height. The floor space of the building, which is 394 by 526 feet in dimension, is occupied by displays of the Department of Education and the De-

partment of Social Economy, both of which are unusually well planned and arranged for the daily needs of visitors.

There will be, however, no specimens of pupil's work, but each city, state, or county will exhibit the one system for which it is celebrated. Agriculture and gardening are features, and moving pictures, which are beginning to play an important part in all branches of education. California illustrates new methods of outdoor study and outdoor schools. Working models are used where possible, and classes are shown in actual operation. The various methods of educating the deaf, dumb and blind are also shown.

A great number of foreign nations participate with special exhibits. Notable among those will be the school operated under the Montessori system, in charge of Mme. Montessori, who will come from Italy in order to present thoroughly a system that has been a subject for world-wide discussion.

### MINES AND METALLURGY

Bounded by the Esplanade on the north, the Avenue of Progress on the east, the Court of Mines on the south, and on the west by the Court of Abundance, lies the Palace of Mines and Metallurgy. Here the story of a great national industry is told. Here are found models, apparatus, methods, and finished products, showing the processes of fabricating steel from the time it is dug from the earth until it is delivered to the consumer in one of hundreds of forms. The successive stages of the fabrication of steel will be shown in electric, Bessemer, and open-hearth furnaces.

The United States Bureau of Mines has installed a demonstration mine beneath the building, which is reached by a regulation mine cage. The mine is in every respect a model one, operated under modern conditions, with complete representation of the most efficient machinery and the methods employed. Motion pictures are provided showing certain operations which it would be impossible to actually portray.

### TRANSPORTATION

This palace, located on the north side of the grounds and facing the hills of Marin County and the waters of San Francisco Bay, is an immense structure measuring 579 feet by 614 feet. Sixty-five feet high, with a large dome in the center, it typifies the representative construction and architecture of the eight exhibit palaces in the central group.

The exhibits are divided into four great classes: namely, navigation, auto transportation, air craft, and railway equipment. Each branch is represented from the beginning to the most ultra modern achievement. The Huntington locomotive, the first one used by the Southern Pacific, stands insignificantly alongside the modern compounder. Bob Fowler's aeroplane, in which he crossed the United States, is also on exhibition, and an up-to-date automobile show is another feature.

### AGRICULTURE

This palace, one of the four in the central group that faces the Marina and the Esplanade, separated from Transportation by the Court of the Universe, embraces an area of 40 acres. The exhibits deal with every conceivable phase of the agricultural industry. From model farms, covering a few square feet in area, the exhibits range in size to immense combination reapers, threshers, and harvesters designed to be hauled by large tractors. Of particular interest are the state exhibits of hay, grains, and fruits which the people rely upon to lure and lead the many visitors "back to the farm."

## THE TIGER

### FOOD PRODUCTS

Located at the west end of the central group, separated from Agriculture by the Court of Four Seasons, and facing the bay, stands one of the most interesting, perhaps, of the exhibit palaces—Food Products. Within this palace a great many of the exhibits are operative. Model irrigated farms have grain and plants actually growing. A flour mill is in operation, and a bakery converts the flour into bread and cake. The United States Government has one of the greatest fish exhibits that has ever been shown in any country, including a fish hatchery for salmon and trout. Motion pictures show the many processes in manufacturing food products, which space would not permit to be exhibited. The Food Products Building reminds one of a gigantic grocery store, with all brands of canned goods and appetizing samples to lure the housewife

### MACHINERY



*The West Nave of Machinery Hall, facing the Avenue of Progress*

Machinery Hall, the largest timber framed structure in point of cubical content ever erected, lies east of the main group of exhibit buildings and faces the Avenue of Progress. It is 960 feet long and 360 feet wide, covering an area of 370,000 square feet, and encloses 30,000,000 cubic feet of space. One mile and a half of cornices were used in decorating the building, four carloads of nails were used in its construction, and 1,500 tons of bolts and washers were utilized.

This palace demonstrates the progress of invention during the most productive period in the history of mechanics. It is here the United States Government exhibits its military armament. The modern methods of developing power from water courses are shown, one Pelton-Doble wheel capable of producing twenty thousand horse-power being on exhibition. A Diesel engine, the first exhibit installed at the Exposition, furnished the power which was used in the construction work. Various forms of internal combustion engines, well-digging machinery, printing presses, machine shop equipments, etc., are in evidence.

## FINE ARTS

Its beautiful architecture reflected in a great lagoon of placid water, its massive dome embowered in a profusion of green and verdant foliage, and its color scheme varying to form a sympathetic background to its surroundings, lies the most picturesque of the exhibit palaces—Fine Arts. It is built in the form of an enormous arc, measuring 1,100 feet in length, and is fireproof throughout, because in it must be housed the priceless art treasures of nations, the souls of countless artists.

The exposition collection has been greatly enriched by masterpieces shipped from art centers of Europe for safekeeping during the war. Art treasures that otherwise would never have been removed from their palaces in famous galleries have been shipped to San Francisco for safe keeping. Twenty-five galleries have been allotted to foreign nations participating in the art exhibit, and the remainder to historical and loan collections of paintings and prints from the United States.

## FESTIVAL HALL

Festival Hall, at the east end of the South Gardens, resembles architecturally the Theater Beaux Arts in Paris. It will be the scene of many of the great festivals and choral competitions entered into by various singing organizations of the world. The building, a huge dome with large arched openings, on two sides, will seat about 2,700 persons. Here temporarily hests the Exposition Organ, worth \$43,000. There will be recitals on this great organ by such masters as Clarence Eddy, Saint Saens, and Edwin Lamore. There will also be meetings of the world congresses in this building.

## HORTICULTURE

Wreathed in garlands, with flower urns, stands, and vases placed wherever space and art permit, stands this, the most ornate of all the palaces. Most prominent among the features of the building is the immense glass dome measuring 185 feet in height, by 152 feet in diameter. The dome of the Palace of Horticulture at the Columbian Exposition had an outside diameter of 187 feet; the dome under discussion, however, exceeds that of the Chicago dome in one dimension: namely, its extreme height, 185 feet, while the height of the Chicago dome was 135 feet. At the foot of the superstructure is planted in the enormous circular space the rarest and commonest of all flowers and trees. California makes an extensive showing of Luther Burbank's creations and the prize offered for the finest rose, hitherto unexhibited and unnamed, has excited international interest. A rare collection of orchids, valued at \$30,000, is shown in this building. A large fruit exhibit is off to the west of the main structure, showing the methods of packing houses and also rare samples of fruits.

The dominating purpose of any exposition is education. In each palace the department allotted to it is elaborate in detail and nothing of the subject is omitted. It is the exhibits which give to the Panama-Pacific International Exposition its high educational rank and value. Every line of thought, every field of endeavor that makes for human progress, science, art and literature, is found in these vast exhibit palaces.

M. E. WANK, '15.  
W. H. ALISON, '16.

## THE STATE BUILDINGS

Tier beyond tier, height above height, from an endless unit of arches, colonnades, peristyles and courts, the great Exposition rises from a sheltered valley of soft color and sunshine. Here the one great jewel, the sun, darts down its rays to kiss the crowning pinnacle of the glittering Tower of Jewels, which, like the fairy hut of Hansel and Gretel, appears as pure translucent sugar.

The one great thought now is to be amongst this wonderland, to hear, to see, to learn. Accordingly, we proceed through the masses of people to the entrance at Baker Street, this being most convenient to the section with which we are concerned. The slogan, "See America first," has gone the rounds. Naturally, therefore, we take up our course along Administration Avenue to the State buildings.

The State buildings and exhibits represent an expenditure of \$10,000,000. They stand beside the Foreign buildings on the Avenue of the States, west of Administration Avenue, north of the Esplanade, and joining the Avenue of All Nations. It is a remarkable fact that thirty-eight out of a total of forty-three State and Territorial buildings have been completed. This showing is greater, by three buildings, than at either the Chicago or St. Louis expositions. The State buildings are largely intended for social purposes and as a rendezvous for visitors from the respective commonwealths. Occupying the immense area west of the exhibit palaces, they are part of a vast mosaic made up of bits from the famous structures of the great cities of the earth. Here, as it were, one scans again the illustrations of childhood text-books and views the structures that were scenes of many a stirring episode of the country's early history.

First in the category comes the Virginia Building, which is a truthful copy of Washington's home, even to the outbuildings on either end of its spacious wings. These include the granary, spinning room, detached quarters, servants' quarters, and the stable. The rooms of the building are to be ornamented with Washington's own furniture so far as possible. Where exact furniture cannot be obtained, exact models after the same design have been made for some of the rooms. The architecture is strictly colonial. This building was completed at a cost of \$40,000.

The Pennsylvania Building is of brick, built on the lines of Independence Hall, Philadelphia. This marks the second occasion that the Keystone State has raised "the birthplace of our liberties" on an exposition ground. The same degree of verisimilitude is found in this as in the reproduction of Mt. Vernon. The famous "liberty-bell" will be brought here and placed on exhibition in this building. To safeguard the transportation of this treasure, elaborate preparations have been made, and the historic old relic will come accompanied by special escort. Upon delivery, it will be installed in a specially constructed vault when not on exhibition, and will be continually under guard. This building, costing \$300,000, is of Dutch colonial architecture, tinged with French influence. Portraits of the Governor, and former Governor stand impaneled in the walls. There are no exhibits in this building, but two great murals in the Colonial Court show the steel industry of the State. Pennsylvania will have her own post-office service in the building, Edwin C. Brown being post-master.

Another structure of revolutionary importance is the Trenton Barracks. These were General Washington's headquarters for a time and are the model New Jersey has shown. Like the original, they will be President Wilson's headquarters and the temporary capital during his visit here with the world's fleet. The Trenton Barracks have been pronounced by the foremost architects as one of the best examples of true pre-revolutionary architecture. The barracks were built in 1758 and used by the colonists in 1759 as officers' quarters. They were used by both English and Hessian troops during the Revolution. The construction



costs total \$200,000. Antique furnishings are to be a feature, and it has been announced that President Wilson will occupy the handsome guest chambers.

The State of Maryland will rear again the residence of Charles G. Carroll of Carrolltown. The original owner was a signer of the Declaration of Independence, and the residence, surviving the ravages of time, stands the oldest in Maryland. Bricks for its construction were sent from England before bricks were manufactured in this country. The original Carroll Manor was a royal grant to the owner and extended into three different counties. Maryland's building is a facsimile of the original structure now standing in Charles Street, Baltimore, where it is one of the buildings of the Johns Hopkins University. It is furnished with copies of old furniture and the only exhibits are historical documents and accessories. These documents and pictures treat of the State's history from the planting of the first cross on Maryland soil in 1634 to the writing of the "Star Spangled Banner" in 1814. There is also the first letter sent to England from Maryland. This remarkable work of art was erected at an expense of \$75,000.

"The Hermitage," the home of Andrew Jackson, constitutes Tennessee's exhibit, while Kentucky has built the home of Henry Clay.

Both Massachusetts and Ohio have built likenesses of their respective State-houses at Boston and Columbus. The Massachusetts Building is historically famous as the "Bullfinch Front," after the architect. Hundreds of heirlooms of carved mahogany and tapestries of great value are a feature of the reception rooms. No piece is taken from professional collectors; all are loaned by private individuals and are of inestimable value. Ohio's pride lies in the busts of the six Presidents she has yielded. She will display and exhibit fine arts, education, agriculture and livestock. The Massachusetts Building cost \$250,000 and the Ohio structure \$125,000.

Oregon has made a radical departure from the customary exhibit. Using Oregon material entirely, she has rebuilt the Greek Parthenon in logs, and the result is one of the most striking on the grounds. So far as possible each column is of different wood. The exhibit deals with timbering, fruit and grain growing, fisheries, mining, and cattle raising. The cost of this unique erection is \$175,000.

The other State buildings are chiefly for purposes of reception and entertainment. Many states are depicting their beauties, industries, methods of health, and their schools through the agency of the motion picture. The buildings are in most cases reproductions of typical structures. The North Dakota Building has an extraordinary exhibit in a large lump of coal weighing a ton, which represents the 500,000,000 tons of coal geologists say are under the surface of this State. Another object of interest is an immense basket, twelve by eight feet, piled high with fruits and grains. It typifies the well filled bread-basket of the people of Montana. The kitchens in the New York Building are exhibits in themselves, as they represent the last word in equipment.

We have reserved the California Building last in order that we may make an honest comparison with our Eastern cousins. This, the second largest building on the grounds, covers approximately eight acres, and in cost of construction, equipment, installation of displays, represents an outlay of \$2,000,000. It sits on the site of the old Harbor View Gardens, the clipped hedges of which still stand in what is now the patio of the building. In form it consists of a towered main building, two stories in height, surrounded by an immense court. The highest part of the edifice is three stories, a bell tower, being the dominant height. The cathedral towers rise from an old garden, rearranged to suggest the "Forbidden Garden" of the old padres of the Mission of Santa Barbara. The architectural design is taken from a combination of the styles of the old Spanish missions and is the conception of Thomas H. F. Burditt, a San Franciscan. He traveled over the State to visit every mission on El Camino Real before formulating the building plan. This is the "host" building of the Exposition. The displays of its fifty-eight counties are contained in one of its wings. "In the full glory of indirect



light, the two towers stand as a symbol of devotion and endeavor that has made the State what it is."

The purpose of the Exposition is highly educational. Ten years have now elapsed since the last great exposition, and the demand of the world for a theatre in which to display its progress led to the choice of San Francisco. No exhibit will be compensated by the Court of Awards unless it has been produced or created during the last ten years. This assures us that everything will be new and novel, for this time is sufficient to have caused a change in the machinery of every factory in the United States. Even among the amusements one finds, in many cases, education masquerading in the guise of diversion. President McKinley said, a short time before his death, "Expositions are the milestones of progress." So let us study this greatest Exposition, celebrating man's latest milestone in progress.

ROBERT DRADY, '16.

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## THE ZONE

The "Zone" of the Panama Pacific Exposition is the feature corresponding to the "Midway" of the Chicago fair, its purpose being solely to amuse its patrons. There are many means of accomplishing this end—one can be amused by being instructed in something unknown to oneself heretofore; one can be amused by being thrilled, by nonsense, by gaiety, or by almost any novel spectacle. It is undeniable that the "Zone" utilizes all of these means for the carrying out of its end.

In considering the various concessions, which cover an area of approximately twenty square blocks, it might be well to divide them into various groups.

First, there are the groups which endeavor to portray in miniature the gigantic works of nature and man, which only a few have had the opportunity to see. Under this head would fall the Panama Canal Concession, which is a perfect reproduction, in miniature, of the great Panama Canal. In this exhibit every detail of nature and man in the entire Canal Zone is reproduced, even to the buoys, and the very vegetation and tint of the ground. Each step in each of the locks is worked out, as well as every cut, fill, or dam, in the entire project. As this concession covers between a third and a half a square block, it is necessary to provide some method for the explanation of the various points of interest. This is accomplished as follows: The entire exhibition is surrounded by a moving platform of seats, and a wonderful mechanism explains through a telephone receiver each detail of note as it is passed. On the whole this exhibit can not help but give you an impression of the canal, which could in no other way be gained.

Other widely known spots, reproduced at great expense, are the Grand Canyon of the Colorado, and a part of the Yellowstone National Park. These two great monuments of nature have been transported to the Exposition grounds on a small scale. No amount of trouble and expense has been spared in adding to the realism of these concessions. Even the transplanting of many of the species of natural vegetation and soil formation, has been resorted to. These two exhibits have been financed by two of the big American railroads, at an expense of nearly a million dollars.

There is another group of exhibits which can most easily be classified together. These are the various villages of different nationalities. Mexican, German, Indian, Hawaiian, Irish, Chinese, Egyptian, Australian and Samoan villages are represented, and also an 1849 Wild West and a Somalil and cannibal camp. These various concessions vary in their elaborateness, but each gives you a clear conception of the formation of the town and also of the mode of living of its inhabitants. Once inside one of these villages, you have forgotten that you

are in a "world's fair," and are transported to the land around you (not built in miniature, but in exact reproduction of the most typical scenes obtainable). Natives carry on their ordinary business in each of the villages. Plant and animal life is transplanted, so as to let nothing mar the realism of the spectacle.

Another group of concessions is the novelty scenic spectacles in enclosed theaters—as the pictorial version of the "Creation," by the aid of marvelous lighting and scenic effects on a tremendous stage. This entertainment pictures the world as created in the Bible from the separation of land and water to the creation of mankind. One might even be interested to learn from this act that Adam wore a gold ring with a diamond in it when created, and that Eve had pearl ear rings after being produced from Adam's rib.

The "evolution of the Dreadnaught," the "Dayton Flood," the "Submarines," and the "Battle of Gettysburg," might all fall in this same group.

The next division is the one which youth probably craves most of all. These are the attractions that "go," and "go awful fast," the ones with some thrill, something to jolt one's nervous system. First, under this heading, would probably come the scenic railway, which has come up through years of popular favor, still one of the most widely patronized of concessions. This is no "ordinary" scenic railway, however, but this one is a "world's fair" scenic, just a little longer, a little faster, and a lot more thrilling than any past "scenics." It is really impossible to go into detail for each concession, there being so many, but the "Bowls of Joy," "Race for Life," "Human Roulette" and countless other races, flumes, merry-go-rounds, slides, and railways, are filling with joy the youthful and many of the old frequenters of the "Zone."

Another of the novel and interesting zone features is the "Aeroscope." This is a tremendous steel tower, with a capacity of 112 people, which raises itself hundreds of feet above terra-firma, thereby giving a superb view of not only the entire Exposition, but also of the surrounding city and bay regions. At night, especially, people revel in this opportunity of seeing the marvelous lighting effects of the Exposition palaces and courts.

In forming a picture of the "Zone" branch of this masterpiece of an Exposition, one must add to the few things already mentioned many wild west shows, circuses, menageries, a whole land devoted to nothing but gigantic toy houses of all sorts, "barkers' " side shows of all descriptions, from "incubator babies" to "diving girls" and "flea circuses." Then add to this great blazes of light, and crowds, and more crowds, all enveloped in a sea of mirth, good nature and concentrated joy. Again add scores of restaurants, from the "hot dog" variety, to the "humming birds' tongues" style—but what's the use of picturing?

Everybody must see for himself San Francisco's marvelous, miraculously moulded Jewel City, the Panama-Pacific International Exposition.

P. HEYNEMANN, '15.

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## OPENING DAY—FEBRUARY 20, 1915

"And I should live a thousand years,  
I never shall forget."

Shortly before ten o'clock Saturday morning, when a throng of over 100,000 people, led by Mayor Rolph and Governor Johnson, marched through the Scott Street gate, the greatest exposition the world has ever known was informally opened to the public.

It was the day of days! Not one of the 250,000 persons who attended could help but realize that he was witnessing "history in the making."

Aroused by the thunder of the Presidio's cannon, the ringing of gongs and bells, the tooting of whistles and the screaming of sirens, San Francisco awoke shortly after six o'clock and prepared to enjoy the day for which it had waited so long. Before eight o'clock the great Citizens' Parade began to form on Van Ness Avenue. This long-planned feature truly typified the spirit of San Francisco. Caste was forgotten. Millionaire marched shoulder to shoulder with toiler, singing and cheering.

Leading the marchers were Mayor Rolph, Governor Johnson, and a great majority of the city and state officials. Next in line were delegations from the Chamber of Commerce, the Native Sons, and various other clubs and social organizations from the cities around the bay. Lastly came those for whom the Exposition is intended—citizens of San Francisco, citizens of California, citizens of every civilized nation in the world.

In through the opened gates marched the throng, past the Fountain of Energy, up to the official grand stand situated at the base of the resplendent Tower of Jewels.

The great crowd, extending from the Tower to the Scott Street entrance and from the Horticultural Palace to Festival Hall, stood silently while Bishop Hanna, of the Catholic Diocese, gave the Invocation, and Rabbi Meyer read the one hundred and Forty-eighth Psalm.

President Charles C. Moore of the Exposition gave the opening address. He was followed by Secretary of the Interior Franklin K. Lane, who extended the greetings of President Wilson and the people of the United States to San Francisco and to California. Governor Johnson spoke of the enterprise of San Franciscans, and was followed by Mayor Rolph, who welcomed the people of the world to San Francisco.

After speeches by Wm. H. Crocker, Chairman of the Building Committee, R. B. Hale, Vice-President of the Exposition, and Director-in-Chief F. S. V. Skiff, Bishop Nichols of the Episcopalian Diocese pronounced the Benediction, and all was in readiness for the grand finale.

For the next half hour the greater part of the crowd remained where it was, waiting for the spark that would officially open the Exposition to the world.

It came! At exactly twelve o'clock, Pacific time, or three o'clock, Washington time, President Wilson, standing in the East Room of the White House, touched a gold-studded telegraph key, and the impulse leaped from the White House across the 3,025 miles of space to the wireless mounted high on the Tower of Jewels. The big Diesel engine in Machinery Hall slowly started, the doors of eight palaces swung open, and midst the cheers from hundreds of thousands of throats and the waving of hundreds of thousands of hats, every fountain of the Exposition sprang into sudden life.

The Panama-Pacific International Exposition was open—open to all who chose to enter.

With the simple ceremonies over, the crowd spread, fan-like, over the 635 acres which constitute the Exposition area. Some went towards the west, where stand the State buildings and Foreign palaces. Canada's building, majestic, and complete in every detail, was crowded throughout the entire afternoon.

Others started their inspection of the exhibit palaces, the Machinery, Transportation, and Mines and Metallurgy Palaces proving most popular. In Machinery Hall, the San Francisco "Examiner's" huge color press was the center of attraction. The Government exhibit of model battleships, torpedoes and shells also attracted many thousands.

In the Transportation Palace, every form of modern carrier is exhibited. The little Huntington engine, the first engine ever used by the Southern Pacific, stands like a toy beside a modern compounder that daily hauls the long freight trains on their trans-continental journey. Then there are exhibits of automo-

biles, electric engines, modern coaches and even the interior of cabins on ocean-going liners.

Though these buildings proved most popular, none of the exhibit buildings were slighted. The Palaces of Fine Arts, Education, Liberal Arts, Agriculture, Food Products, Horticulture, Manufactures and Varied Industries each held their quota of the throng.

A great majority of the people did not attempt to inspect the exhibits, but were content to spend the opening day walking around gazing at the architecture of the buildings, the statues, the courts and avenues, the equal of which few, if any, have ever seen.

And then there was the Zone! From noon until far in the night the main and only street of the "Joy zone" was a jostling, noisy, but happy mass of humanity. Here and there the crowd surged around some gesticulating "Spieler," who, in raucous voice, told of the great merits of the particular concession he was advertising.

When the curtain of night fell gently over us, the lights were flashed on and the crowd gained their first inkling of the Wonderland by night. Those who had come only to spend the day, were forced by the irresistible charm and grandeur of the scene to spend the evening as they had spent the day—wandering up and down, finding some new treasure at every step.

On the Zone, the buildings with their brilliant incandescent lights and the long-armed Aeroscope, over 250 feet in height, outlined against the black of the night sky were an unforgettable sight.

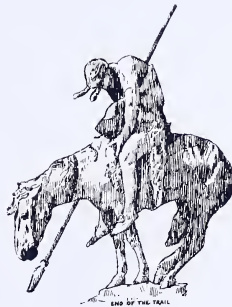
Around the palaces and buildings, the lighting was far less brilliant. The clusters of lights on the buildings and poles were shielded by banners that gave to the structures the same subdued tones that they possess by day.

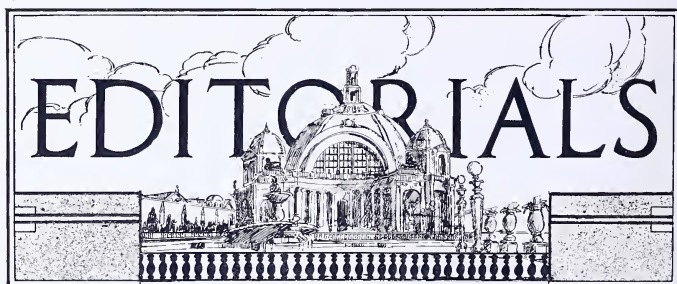
The batteries of white and colored searchlights, playing through the air and upon the sparkling Tower of Jewels, increased the beauty of the scene a thousand-fold.

By day, the Exposition was perfect—sublime. By night—I can find no words to describe it. I can only echo the sentiment of the one who wrote:

"The uplands of the fairest dream could be no lovelier. To stand before that Tower of Jewels and watch it, not gleam, but actually shiver in an ecstasy of sheer beauty, is to know, as far as one may ever learn on this earth, what Paradise may be like."

C. ALLSOPP, '15.





## THE TIGER

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**T**HE Universal School has opened! The Panama-Pacific International Educator has thrown open its doors to the world! Have *you* registered?

The Exposition Company, with great care, has gathered the most modern appliances, art treasures and objects of world interest from all sections of the globe. The wonders of the last ten years have been collected, segregated, and scientifically exhibited. The great inventions, the modern forms of machinery, the clever manufactures, the various modes of transportation, the rare samples of ores, the appetizing and cleanly food products, the modern methods of education, the costly and beautiful art treasures, the rare trees, plants and flowers, along with countless other wonders have been placed in a most alluring and pleasing setting, decorated and tinted by world-famed artists.

Thousands of people the world over, realizing the importance of this exhibition, will travel as many miles to see it; educators, scientists, scholars, students, artists and artisans, men and women in all walks of life, will come. If these people are traveling such great distances to visit our Fair, certainly we of San Francisco, who are in an ideal position to see this great Exposition, should avail ourselves of the opportunity to visit it and visit it often; to study it and study it thoroughly; to derive from it all the benefits for which it was intended.

Here is the opportunity for us to incorporate in our regular studies a course in practical pleasure-education. To wander from palace to palace examining and studying the great inventions and modern applications of nature's resources is a pleasure and an inspiration. The P. P. I. E. offers to each and every one of us a branch of learning—which our more fortunate neighbors have obtained through extensive travel—that it would be little less than impossible to obtain in any other manner.

In visiting the Exposition we must bear in mind that we get from the Exposition just exactly what we put into it. Therefore, with a thorough study of the county, state and national exhibits along with the main exhibits and their surroundings, combined with a reasonable investigation of the "Zone," the Exposition will do for us that which it was intended to do: give us a better understanding of civilization and its effects upon mankind.

Let us avail ourselves of the opportunity which is now open! We may never see another like it!

#### ACKNOWLEDGMENTS

**B**Y courtesy of the Panama-Pacific International Exposition Company, represented by the Division of Exploitation, we are able to have this Exposition Number. The photographs for the half-tones and for making the department headings and tail-pieces were cheerfully furnished by this department. THE TIGER feels indebted, and wishes to take this opportunity to express its appreciation to Mr. Geo. H. Perry, Chief of the Department, to Mr. A. H. Dutton, to Mr. H. M. Wright, and to Mr. Clark, for the many suggestions, for information, and for the photographs mentioned.

THE TIGER also wishes to thank Misses Denny, Boulware and Eppard, Faculty members, for their helpful criticisms and aid in compiling this book.







Attention, Lickites! Are you interested in the exchanges? Do you read these columns, and wish that the pages of these, our contemporaries, were open to you? If so, you will have the opportunity of obtaining your wish, and of broadening your ideas of high school life by reading of it from every point of view. The exchanges will be placed on file the first of the new quarter.

In order to give the Exposition the greatest publicity possible, the *Tiger* will take advantage of its long list of exchanges in circulating the issue throughout the country. We are not confined to this country, however. Our most interesting exchanges at the present time are from Canada. They are full of war-like verse and story, and contain the spirit of patriotic fervor.

*Camosun*, Victoria, B. C., is a fine representative of what a monthly should be like. It ranks among the first papers on our exchange list. We only suggest that you put the names of the staff under "Editorials," and thus leave an entire page for the table of contents. The only other remediable fault is the front page ads. Abolish these and your paper will have no equal.

In the *Cricket* of Belmont, Cal., we find good cuts and good interesting photographs. Your stories and editorials are all well written. The Hallowe'en article was especially interesting. Where is your exchange column?

We welcome a new exchange on our desk: the *Mission* of San Francisco. Few of our exchanges come up to your standard. From cover to cover no fault has been found. "The Vengeance of Jimmy McAleen" is a story which shows the author to have real literary talent. Your stories, poems, art work and all the other material is excellent. We can but repeat—few compare with you.

Another new and fine exchange which we have received is the *Girls' High Journal* of San Francisco. Your literary department is the only one we have seen which shows quality and quantity at the same time. The French and German stories are well written. We note, however, that your cuts are a trifle below the standard of the rest of the paper. We also note the absence of an exchange department.

For a first issue, the *Langarian*, of Vancouver, B. C., is indeed excellent. In time you will have an issue second to none. Your cuts are good, though rather scarce. The cover design is unique and artistic. "A Retrospect" and "Shakespeare" are fine, instructive articles.

Cuts, *Maroon and White*, Carmi, Ill., are what your paper demands. Get your artists to work making department headings to liven your edition and simplify arrangement. Also remove the ads from the first page and insert a table of contents in their place. Strive to better the appearance of your publication, as looks count.

You indeed have something to boast of in your literary department, *Owl*, Fresno, Cal., as your stories are of the first water. The other departments do not lag in merit.



We are glad to see you, *Piquonian*, Piqua, Ohio. Your February issue is an ideal monthly. We do not, however, think it good form to begin your paper with ads.

We are ever glad to receive the *Madroño*, of Palo Alto. Your departments are up to their usual standard. We wish to repeat the last issue's criticism: Get some good cuts. Do not use the splendid cuts of your old graduates with some new and poor ones. Surely you have students with drawing ability. Put them to work!

The *Manganita*, Watsonville, Cal., deserves the same suggestion that we offered the *Madroño*. You have both good and bad cuts in the same issue, which is rather inconsistent. We noticed another inconsistency,—while reading "The Answer" we were rather surprised to see the word "thought" spelt "thot." Glancing at the exchange list we notice how "shocked" you were to see it in another high school paper. Otherwise the departments are creditable.

*Tucsonian*, Tucson, Ariz. Your publication seems to be a fine one. The stories and technical articles in your January issue are entertaining as well as instructive. A few snapshots of school scenes would liven up your edition and raise it above its present grade of merit.

Congratulations, *Ye Searchlight*, San Rafael, Cal.; you have a winning literary department. The abundance and excellence of your short stories give them high rank. Boost your other departments and *Ye Searchlight* will be a paper to be more than proud of.

We have in general criticized the new members in the family of exchanges. All our old friends, and some new ones, are hereby acknowledged: *B. H. S. Tatler*, Atlanta, Ga.; *Booster*, La Crosse, Wis.; *Carlisle Arrow*, Carlisle, Pa.; *Chaparral*, Stanford University; *Clafin Enterprise*, Newton, Mass.; *Comet*, Orono, Me.; *Courier*, Boise, Idaho; *Crimson and White*, Albany, N. Y.; *Dynamo*, of Newton, Mass.; *Erisophian*, Waxahachie, Tex.; *Flashlight*, Salinas, Cal.; *Focus*, Sioux Falls, S. D.; *Green and Gold*, Oakland, Cal.; *Helios*, Grand Rapids, Mich.; *High School Herald*, Westfield, Mass.; *Kodak*, Sapulpa, Okla.; *Lowell*, San Francisco; *Orient*, Bay City, Mich.; *Palmer*, Palmer, Mass.; *Purple and Gold*, Clarksville, Tenn.; *Red and Black*, Tampa, Fla.; *Reveille*, Newark, O.; *The Review*, Sacramento, Cal.; *Samohi*, Santa Monica, Cal.; *Sherman Bulletin*, Riverside, Cal.; *Student*, Oklahoma City, Okla.; *Student Lantern*, Saginaw, Mich.; *S. R. H. S. Weekly*, Santa Rosa, Cal.; *Stator*, Corning, N. Y.; *Sounder*, Fort Smith, Ark.; *Spy*, Kenosha, Wis.; *Totem*, Seattle, Wash.; *Triangle*, Troy, N. Y.; *Visalia High School News*, Visalia, Cal.; *Vox Lycei*, Ottawa, Canada; *Weekly News*, Berkeley, Cal.; *Wilmerding Life*, San Francisco; *Zodiac*, Lansing, Mich.

San Francisco, California, welcomes the world! THE TIGER, San Francisco, California, welcomes the High School world! Our Exposition is completed; we are proud of it—so proud that we have taken it upon ourselves to let the high schools throughout the country know what we have. Consequently we are endeavoring to place in every State at least one copy of this issue. The expense attending such an undertaking can readily be recognized as quite an item. We would like to be able to place a copy of THE TIGER in the majority of high schools throughout the country, but since this is almost impossible, we suggest that after you receive the paper and have read it, that you pass it to one of your exchanges within your own State.

In this manner we hope that most of our contemporaries throughout the country will obtain a glimpse of the great Panama-Pacific International Exposition from the high school students' viewpoint, and that with the close of the Exposition this message will have influenced some of you to witness the wonderful monument commemorating the greatest achievement of the age—a sight which you will never regret.

Again, welcome!

# SCHOOL NOTES



## THE RALLIES

At one o'clock, December 18th, began the greatest rally Lick has seen in years. Beginning with a rousing "Alibebo," the year's successes and good showing were reviewed. From the opening yell to the closing "backityax" the interest was never lost.

With a few preliminaries the rally was started by Pres. Janssen, followed by Manager Heynemann and Capt. Feldecamp of the Football Team. Each reviewed a successful uphill fight and put in a word of encouragement for Captain-elect Buckley. Buckley, when called upon, said that the new team would be off with a jump and that he was looking for a large turn-out when spring practice was called.

"Frenchy" Rousselot, the Baseball Captain, anticipated a successful season, and from what he says, there's going to be big doings at Lick.

Capt. "Boob" Green and Manager "B. V. D." Parker represented the Basketball Team, and stated that the practice games were whipping the team into first-class shape. They spoke of the innovation this year, a 120-pound team, which will compete in the league series. Here's to them, fellows; they are a Lick team. Back them up!

Track was represented by Capt. "Chas." Dewing and Manager Wank. "No, nothing big last year, but we're laying the strong foundation for a record-breaking team, and sooner or later it will come." Several dual meets are arranged for, which will bring the team into shape for the coming meets at the Exposition.

Swimming got in a stroke or two, when Capt. Lasky and Manager Nelson reviewed the past season and "pre-viewed" the coming one. Block L's were awarded to Lasky and Mead.

Not only athletics were represented; our own little "Abie" Sabalot told us of the L. W. L. Debating Society; "Kaiser" Jungblut (heir to the Belgian throne), mentioned the "odkak" squad, and "Voluminous" McGown, his Radio Club. The TIGER, in the person of Manager Kohlmoos and Editor Hitzerth, pursued in and announced that the March issue would be a Fair one.

Throughout the rally many forms of entertainment were introduced. Chief among these was Mark's "School." The Hon. Prof. rose majestically to the platform and summoned his wayward pupils—our faculty. Each was given his or her card, and after a few moments of discomfort mingled with their own and the students' laughter, when Herr Prof. would give some unearthly bit of advice, the "class" was dismissed and the Honorable Professor became lost in the Senior "gang."

The Orchestra, Glee Club, and Boy's Quartette favored the rally with really fine music. One of the quartette's songs was especially well received, and the encores came fast and furious until the four were forced to retire, their entire repertoire being exhausted.

As a closing feature, Mr. Heyman, dressed as Santa Claus, descended from the North Pole via the chimney, and presented some of the more favored subjects of Lick with appropriate (?) presents.

To advertise the "Windmills of Holland," two Wednesdays were devoted to that noteworthy event. The students heard from Misses Denny and Beeger, the two coaches; Misses Alexander, Sheldon, Mantell and Purcell, the four leading ladies, and Messrs. Kennitzer, Sabalot, Johnson and Hitzeroth, the four shining lights of the boys. Earl had a little something to say regarding the production, and the response of the student body was most gratifying.

A touch of humor was added at one of these rallies, when two "has-beens," P. Heynemann and Hall, dressed as Civil War vets, came up to the platform. A most amusing parody on the opera followed, in which Heynemann impersonated the leading ladies and men, and Hall the alluring "Baby-doll" choruses.

To start off our Basketball Team on a successful season, a rally was held, at which Capt. Green and Manager Parker told us all about the coming games. The 120-pound team was represented by Capt. Devereaux, the little Sophomore. Devereaux prophesied the downfall of Poly and Wilmerding, and down they went.

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### THE WINDMILLS OF HOLLAND

"The best yet!" Such was the pronouncement of Mr. Otis M. Carrington, the well known California composer, who wrote the two-act operetta, "The Windmills of Holland," which was presented by the combined student bodies of Lick, Lux and Wilmerding on Friday evening, February 12th, at Knights of Columbus Hall.

It is the first time that the operetta has been staged before an audience in San Francisco, although it has been put on many times throughout this state and several times in the East.

It was a large undertaking—larger than anything undertaken by the students of this school or the three schools combined. The three Student Body Presidents, Ed Janssen of Lick, Gertrude McLaughlin of Lux, and J. Gavin of Wilmerding, constituted a Board of Managers. THE TIGER, representing the students of Lick, takes this opportunity to express the students' appreciation of all that Pres. Janssen did to make the Lick end of the affair a huge success. Mr. Janssen faultlessly managed the Lick end, and due to his untiring efforts and encouragement to his assistants, the large auditorium was crowded to the doors. Without a doubt, the success attending the affair was greatly due to the time and energy which Pres. Janssen unselfishly expended for the sake of the Student Body.

The purpose of the entertainment was to place the treasuries of the three schools on a firm basis and to pay off standing debts, which had unfortunately accumulated.

The leading roles of Wilhelmina and Hertogenbosch were taken by Celene Sheldon and Will Kennitzer. Miss Sheldon, possessing a beautiful soprano voice, of unusual strength and sweetness, charmed her audience throughout the performance, and drew much applause and due praise.

Will Kennitzer, Lick, with his Dutch Pipe and his funny characterization, drew many a laugh, and with his pleasing tenor voice he entertained the house in comical songs.

June Alexander, with her soft, sweet soprano, made a great impression as

## THE TIGER

Vrouw Hertogenbosch, and successfully settled her daughter's quarrels, thereby upsetting the well laid plans of Bob Yankee, the American salesman.

This last part was taken by Abel Sabalot, Lick. He, with his breezy manner and clever acting (characteristic of drummers), gave life to the performance.

Hilda was played by Evelyn Mantell, who has a delightful alto voice and vigor in acting.

Ned Johnson, Wilmerding, had the part of the music—composing—lover of Wilhelmina, and with his delightful “compositions” finally convinced Wilhelmina that he was the man for her.

Lorenz Hitzeroth, Lick, took the part of Franz, and is still “Looking for a Girl.” Don't crowd!

Miss Gladys Purcell made a dainty typical Dutch girl in the part of Katrina, the maid with whom Franz took up with, after being jilted by Hilda.

Credit, praise, thanks, congratulations, et al., are due to the members of the faculties, who gave their time and energy in coaching, costuming and advertising the operetta. The students feel indebted to those members, and THE TIGER, as the Student Representative, takes this opportunity to particularly thank Miss Denny, Lick, who coached the choruses and principals; to Miss Beegeer, Lick, who supervised the drills and dances, and to Miss Coffin, Lux, who took care of the acting.

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### CAMERA CLUB

Three quarters have passed, during which the Camera Club has been busily engaged in preparation for the great exhibition to be held at the school on April 16th. President Jungblut states that the Lick Committee, consisting of Hall, Rickey, and himself, have been busy making arrangements with the Lux and Wilmerding committees for the big day. The exhibits will be divided into four classes; namely, Landscapes, Exposition pictures, enlargements, and genre. Suitable prizes will be awarded in each class. As an inducement to outsiders and visitors, the committee has arranged to serve tea and cake.

The Exposition certainly offers marvelous opportunity for camerists, the exhibits of Eastman Kodak Company, in the Liberal Arts Building, being especially worthy of careful study.

After the exhibition, the club is planning for a picnic, some time in May, but as yet no definite plans have been made.

---

### SENIOR SEMINAR

Since the Christmas vacation several interesting lectures have been given. Parker spoke on the “Philippines,” Eskilson on “Windmills,” Nelson on the “Diesel Engine,” and Miss M. Stewart, an outsider, on the “Color Scheme of the Fair.” Many new and interesting subjects are to be given soon by Miss Edwards, Messrs. Tibbetts, Cramer, Holman, and Rousselot. Everyone should attend, as the lectures are both interesting and educational.

---

### GLEE CLUB

Owing to the work done by most of the members of the Glee Club in the “Windmills of Holland,” the club has been discontinued for a short time. After the beginning of the next quarter the club will resume its work. New members should come to the first meeting and get started on the new songs.

---

### UKULELE CLUB

The Ukulele Club at present is pretty shy of members. The pleasure it gives at the rallies is sufficient call for more members. Since its origin by President Mead, a short time ago, it has given several entertainments, each one better than the preceding one. Give the club more support!

## L. W. L. ALUMNI NOTES

On the evening of April 24th, the L. W. L. Alumni is going to give a little "time." The affair is in the hands of the committee representing the graduates from the three schools and they are endeavoring to make it a great success.

The committee in charge is composed of Mr. Winters, representing Lick; Mr. Munk, representing Wilmerding, and Miss Lightbody, representing Lux, with the Board of Directors as an advisory committee.

The following program is announced:

March 10th—Boosters' meeting at the Lux School at 8 P. M., to further the plans and to get the co-operation of the alumni at large.

April 24th—Informal banquet at Lux, followed by an entertainment and dance at the Lick School. This date falls in "Home-Coming Week"—California week at the Exposition. All undergraduates, friends, and faculty members are cordially invited to attend. For detailed information apply to Mrs. C. D. Howland, 4620 Army Street.

May 29th—This is the big date with the alumni—election of officers.

On April 3rd, the 1911 class of C. S. M. A. will hold its annual reunion and banquet at the St. Germain. Mr. J. O. Klein, 1017 Ellis Street, has the affair in hand.





# SHOP NOTES

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## MECHANICAL DRAWING

The Seniors are at the height of their work now. Eskilson is working on the plans for the new Lick buildings. Craig is making some diagrams for determining the cutting time of steel for the machine shop. Knorp has finished a tracing for a centrifugal pump. Several testing plants to be used by the Strength of Materials class are also being designed, including a boiler testing plant and an air compressor testing plant. Calculations are being made for a Diesel engine and an electric motor.

The Juniors are all completing their exercise sheets. Townley is revising some drawings for a hydraulic press.

## PATTERN SHOP

All the Freshmen are now working on actual pattern work. Among the numerous patterns turned out, are those for a gear drive testing machine for the laboratory, a pattern for a large door sill for the Wilmerding School and a Ball Mill.

## FORGE

The Sophomores in this department have finished with the making of bolts, nuts, and tempering. They are now on steel work and progressing rapidly. The making of fences for the Wilmerding School is one of the main functions of this shop.

## FOUNDRY

Since the Freshmen have entered this department they have adapted themselves very well to the work, and Mr. LaCoste is very enthusiastic over their achievements.

The moulds for step plates, various parts of the frame for the steam hoist, and a pipe cutter are already finished, while moulds for a briquette testing and a road material testing machine are now under way.



## MACHINE SHOP

This department is working at its usual rapid rate and the abundance of work in the shop is being turned out with dispatch.

The Junior apprentices have completed their exercises and are now working on machine parts. Dexter is making brass fittings for the head of a new air compressor. Norman has finished three lever arm shears and is now starting on a windmill model draughted by Eskilson. Godon has completed the crank shaft for the air compressor.

The Seniors are all working hard also. Anderson has completed a geared pipe cutting machine and expects to acquire more honors before he starts for the farm. Pengelly has very little more to do on the steam hoist before it will be in operation. Jungblut, the shop utility man, is working on various odd jobs, when Mr. Sunkel is watching.

## CHEMISTRY

The Senior apprentices are at present working on the analysis of iron and steel, having completed their water analysis. The Juniors are analyzing iron ores, and the Sophomores have visited the nearby chemical works and now understand the manufacture of the various acids.

---

Professor of Chemistry: If this experiment should go wrong, we and the laboratory with us might be blown sky-high. Come closer, gentlemen, so that you may be better able to follow me."—Brooklyn Eagle.





## BASKETBALL

Although the unlimited team had had a very hard season to pass through, the 120-pound team has come to the front and shown the pep and team work that was not only a satisfaction to the players, but a surprise to the rooters. So far this team has gone through the season without a defeat. It looks as though they have a good chance to win the honors of the S. F. A. L.

The first game of the 120 was against Poly, and was a victory for Lick by a 20-11 score. The second game was another victory against Wilmerding by a 15-7 score.

The basketball season of the year 1915 is now half over. The team picked to represent Lick in the unlimited class was a hard fighting team, but lack the accuracy and team work of the team of experienced players.

The first game was a hard fought game with Poly, which was a close game of 33-27 against Lick. The second game was an unexpected defeat by Wilmerding by a 27-16 score.

## BASEBALL

Baseball season is now on! Spring practice has opened with a fine showing. If you do not believe it, look out across the campus at noon, and the sight will prove that the National sport is thriving here at school.

Captain Rousselot should have a successful year. He is well deserving of such a season. He gives all a fair trial. The Freshmen have shown up fine, and some of these Scrubs are going to make the upper-men fight hard to win a position on the team. We will have to build up a new team this season; so there is a chance for all who come out and show that they are in earnest. The captain will lead to success with the proper men behind him; so now get out determined to better the team.

Our first practice game, with Palo Alto, was postponed by them. The inter-class will probably be played off about the middle of March. A series of good practice games has been arranged by Manager Craig. Some of them are: Hitchcock, Tamalpais, Union High, Palo Alto, San Mateo, Polytechnic and Alameda.

## LEAGUE SCHEDULE

Cogswell .....	April 17
Polytechnic .....	April 24
St. Ignatius .....	May 1
Sacred Heart .....	May 15

## TRACK

Our track team should make a good showing this season, as there is good material in the school. All that is needed is efficient practice on the part of all aspirants of this sport. Our weight classes should be hard to pick, as the lower classes have a great many little men. We have a new hurdle man this year who promises well. A little short, well built fellow seems determined to make good at the pole with Captain Dewing. "Pop" Maynard is developing into a fine weight man. Marks has improved in the 440(?) Anderson-Trumbell will make our unlimited jumping team.

Fellows, track is important! There are great opportunities given to contestants. It represents your school in a healthful sport. There is an added inducement this season—in the coming Inter-class all first place men will be presented with a medal. Now get out and show us who you are, and win that medal. Remember that all the chief meets will be held at the Exposition grounds—before thousands of people. It will be a fine opportunity to show that Lick still has that "old spirit."

## SWIMMING

Swimming prospects for the coming season are considerably brighter than they have been for some time past. The Inter-class held on Wednesday, February 17th, at Larline Baths, proved exciting and interesting and incidentally brought out some good material. '16 won the meet with 34 points, '18 was second with 21, and '15 third with 20, while '17 brought up the rear with a grand total of 6.

Another Inter-class is scheduled to take place shortly before the S. F. A. L. and with this event to condition the fellows, the Lick team should be a strong one.



THE FALCONER



### **Quite Natural.**

Guide at the P. P. I. E.: "This is the statue of The Pirate. You see it quite often on this building."

Janssen: "Oh, yes. What was the name of this building, did you say?"

Guide: "This is the Transportation Building."

Janssen: "Oh, I see. Very significant. I suppose that statue represents the railroad companies."

---

### **Some Present!**

Junior: "Say, the '11 class left the school a drinking fountain, the '13 class a check, the '14 class a debt; what is the '15 class going to leave?"

Pres. Allsopp: "Parker!"

---

### **Black and White.**

P. Marks: "Well, Eskie, how's everything?"

Eskilson: "Oh, she's all right!"

---

### **Going Down!**

"Scrub" Rolph (fervently): "I could dance to heaven with you."

Lucy M.: "Let's reverse."

---

### **Poor Pen!**

Having found out from experience the day before that "Star" is not conducive to a well feeling when swallowed, Pen was peacefully chewing in the "Strength" class, when Mr. Heyman saw him:

Mr. Heyman: "Pengally, what are you chewing?"

Pen.: "Gum."

Mr. H.: "Trying your luck on gum to-day?"

---

### **In Trig.**

Herman: "We're having Mexican mathematics now."

Philip: "I bite."

Herman: "All these revolutions."

---

If Rousselot can catch, can Banfield?

If Miss Oswald is a daughter, is Eskilson?

---

### **Before the Footlights.**

Terry H.: "I would like to call on you to-morrow night, and if your father should come to the door, what should I say?"

Margaret S.: "Say your prayers."



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Hitz: "Here's a fellow patents a contrivance to keep girls from falling out of hammocks."

Heinie: "More machinery displacing men."—Ex.

Miss D.: "Mr. Marks, explain Gray's use of the word 'lea;' why didn't he use 'vale'?"

P. Marks: "Well, vale means a valley, but lea is the level part of a sloping hill."

### A Fish Story.

An oyster is a fish shaped like a nut.—Ex.

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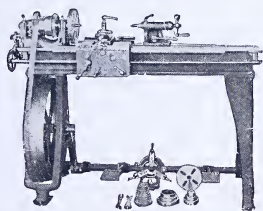
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---

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"How's that?"

"Oh, they haven't had a nap in the last six years."—Ex.

---

McGown: "Can you see a light-wave?"

Marks: "Sure! Shake an electric lamp."

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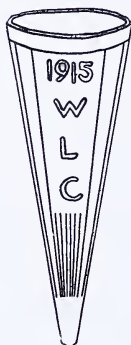
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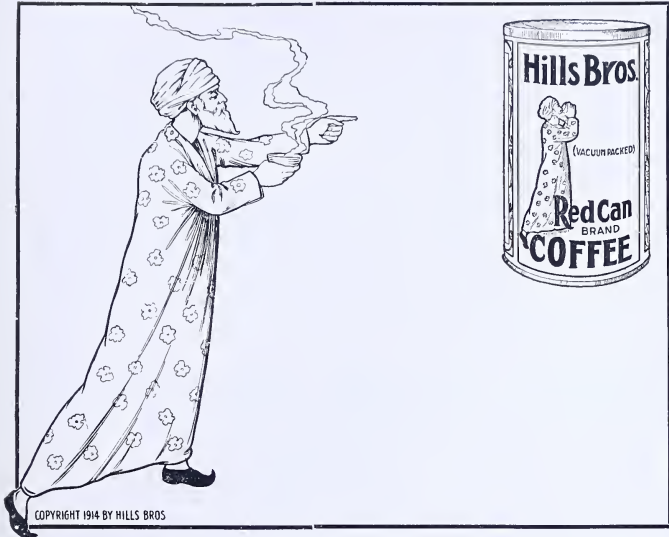
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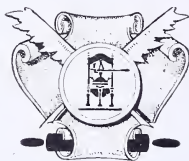
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**DISCOVERED!** the fifth dimension cubical area (count 'em), by the eminent German scientist, Herr "Tub," claimant of the House of Jungblut, heir to the throne of Belgium. Stage-frights reserved by international agreement.

**FOUND!** another great scientist, Delius, who observed that two cubic centimeters equal one foot.

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